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09/840,399	04/23/2001	Jacobus Haartsen	040071-510	4491

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EXAMINER

TRINH, TAN H

ART UNIT	PAPER NUMBER
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2684

DATE MAILED: 02/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/840,399

Applicant(s)

HAARTSEN, JACOBUS

Examiner

TAN TRINH

Art Unit

2684

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-2, 13, 16-17 and 30-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Le Strat (U.S. Patent. No.6646995).

Regarding claims 1 and 16, Le Strat teaches a method for synchronization in radio communication systems (see fig. 1, col. 8, lines 39-57), the method comprising the steps of: encapsulating symbols in an information stream (see col. 3, lines 41-59); Le Strat inherently teaches modulating the information stream (see col. 3, lines 41-59, since when the mobile station transmission the information is modulating the information with the carrier), sending the modulated information stream with a first robustness level over a communication channel (see col. 4, lines 34-52); and reducing the level of robustness of the information stream to a second robustness level according to a predetermined function (see col. 4, lines 34-67).

Regarding claims 2 and 17, Le Strat inherently teaches the step of: dividing the information stream into a plurality of segments (see col. 5, lines 60-67 and col. 6, lines 55-65).

Regarding claim 13, Le Strat inherently teaches the steps of: receiving the modulated information stream from the communication channel and demodulating the information stream after a first number of symbols have been received (see figs. 1 3A-C and 12, col. 1, lines 33-52, since when the mobile station transmission the information is modulating the information with the carrier and received the information is demodulation), wherein the first number of symbols is less than a second number of symbols (see col. 1, lines 46-61), that would have to be received to demodulate a corresponding information stream sent over the communication channel only at the second robustness level (see col. 4, lines 24-67).

Regarding claim 30, Le Strat teaches an apparatus for synchronization in radio communication systems (see fig. 1, col. 8, lines 39-57), Le Strat inherently teaches: a receiver for receiving a modulated information stream with a first robustness level sent over a communication channel and then reduced the to a second robustness level according to a predetermined function (see col. 4, lines 24-67); and a demodulator for demodulating the information stream after a first number of symbols have been received (see figs. 1 3A-C and 12, col. 1, lines 33-52, since when the mobile station transmission the information is modulating the information with the carrier and received the information is demodulation) wherein the first number of symbols is less than a second number of symbols (see col. 1, lines 46-61), that would have to be received to demodulate a corresponding information stream sent over the communication channel only at the second robustness level (see col. 4, lines 24-67).

Regarding claim 31, Le Strat teaches a system for synchronization in radio communication systems (see fig. 1, col. 8, lines 39-57), Le Strat inherently teaches: logic that encapsulates symbols in an information stream (see col. 3, lines 41-59); a modulator for modulating the information stream (see col. 3, lines 41-59, since when the mobile station transmission the information is modulating the information with the carrier) a transmitter for sending the modulated information stream with a first robustness level over a communication channel (see col. 4, lines 34-52), logic that reduces the level of robustness of the information stream to a second robustness level according to a predetermined function (see col. 4, lines 34-67), a receiver for receiving the modulated information stream from the communication channel (see col. 4, lines 24-67); a demodulator for demodulating the information stream after a first number of symbols have been received (see figs. 1 3A-C and 12, col. 1, lines 33-52, since when the mobile station transmission the information is modulating the information with the carrier and received the information is demodulation), wherein the first number of symbols is less than a second number of symbols (see col. 1, lines 46-61), that would have to be received to demodulate a corresponding information stream sent over the communication channel only at the second robustness level (see col. 4, lines 24-67).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3-4, 14-15, 18-19 and 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Le Strat (U.S. Patent No. 6,646,995) in view of Boyden (U.S. Patent No. 6,724,737).

Regarding claims 3 and 18, Le Strat teaches the Bit Error Rate (BER) and coding to a plurality of segments in the information stream using at least two different coding rates (see col. 2, lines 23-28); and varying the coding rates among the plurality of segments to change the robustness of the information stream from the first robustness level to the second robustness level (see col. 2, lines 23-28 and col. 4, lines 28-67). But Le Strat fails to teach the adding Forward Error Correction (FEC).

However, Boyden teaches the adding Forward Error Correction (FEC) (see col. 7, lines 30-44).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Le Strat system and by providing of the teaching of Boyden on the FEC technique so that the symbol blocks are received that are either heavily or light encoded using a more or less of robustness level (see col. 7, lines 33-35).

Regarding claims 4 and 19, Boyden teaches wherein the plurality of segments to which the FEC coding is added includes a segment adjacent to where a demodulation of the information stream begins (see col. 7, lines 29-63).

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Regarding claims 14 and 28, Le Strat teaches data communications. But Le Strat fails to teach wherein the information stream is comprised of packets.

However, Boyden teaches wherein the information stream is comprised of packets (see col. 3, lines 31-65).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Le Strat system and by providing of the teaching of Boyden on data packets technique so that the data packet is measured and compared to the reference transmission quality level and provide user with the robustness of the transmitted information.

Regarding claims 15 and 29, Boyden teaches wherein the packets comprise a training sequence (see figs. 1 and 3, col. 7, lines 9-29).

5. Claims 5-10 and 20-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Le Strat (U.S. Patent. No.6646995) in view of Amalfitano (U.S. patent No. 6,545,990).

Regarding claims 5 and 20, Le Strat inherently teaches wherein the step of modulating the information stream comprises the steps of: modulating a plurality of segments in the information stream (see col. 2, lines 23-28 and col. 3, lines 41-59); and varying the modulation schemes among the plurality of segments to change the robustness of the information stream from the first robustness level to the second robustness level (see col. 2, lines 23-28 and col. 4, lines 28-67). But Le Le Strat fails to teach using at least two different modulation schemes.

However, Amalfitano teaches using at least two different modulation schemes includes a segment adjacent to where a demodulation of the information stream begins (see figs. 4 and 6, col. 4, lines 5-24 and line 65-col. 5, line 3).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Le Strat system and by providing of the teaching of Amalfitano on the modulation schemes technique thereto in order to provide user with different modulation schemes in communications.

Regarding claims 6 and 21, Amalfitano teaches using at least two different modulation schemes includes a segment adjacent to where a demodulation of the information stream begins (see figs. 4 and 6, col. 4, lines 5-24 and line 65-col. 5, line 3).

Regarding claims 7 and 22, Amalfitano teaches wherein the step of encapsulating symbols comprises the step of: adding Forward Error Correction (FEC) coding to at least one segment in the information stream (see fig. 5, col. 6, lines 56-67) wherein the varying of the modulation schemes and the adding of FEC coding change the robustness of the information stream from the first robustness level to the second robustness level (col. 7, lines 22-col. 8, line 22).

Regarding claims 8 and 23, Amalfitano teaches wherein the step of encapsulating symbols comprises the steps of: adding Forward Error Correction (FEC) coding to a plurality of segments in the information stream using at least two different coding rates (see col. 6, lines 46-



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67), and varying the coding rates among the plurality of segments; wherein the varying of the modulation schemes and the varying of the coding rates change the robustness of the information stream from the first robustness level to the second robustness level (col. 7, lines 22-col. 8, line 22).

Regarding claims 9 and 24, Amalfitano teaches wherein the pluralities of segments among which the modulation schemes vary and the plurality of segments among which the coding rates vary are different pluralities of segments (see fig. 5, code rate select 60 and code rate 442-4, col. 6, lines 56-67).

Regarding claims 10 and 25, Amalfitano teaches wherein the plurality of segments among which the modulation schemes vary and the plurality of segments among which the coding rates vary are the same plurality of segments (see col. 6, lines 56-67 and col. 7, lines 1-12).

6. Claims 11-12 and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Le Strat (U.S. Patent. No.6646995) In view of Kodama (U.S. Patent No. 5,416,787).

Regarding claims 11 and 26, Le Strat teaches the robustness level is changed from the first robustness level to the second robustness level (col. 7, lines 22-col. 8, line 22). But Le Strat fails to teach the steps of: encoding the information stream using convolutional coding at a first

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coding rate; puncturing the encoded information stream; and varying a rate at which the encoded information stream is punctured to achieve a second coding rate.

However, Kodama teaches the steps of: encoding the information stream using convolutional coding at a first coding rate (see fig. 8, and col. 2, lines 9-39); puncturing the encoded information stream and varying a rate at which the encoded information stream is punctured to achieve a second coding rate (see col. 12, line 50-col. 13, line 2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Le Strat system and by providing of the teaching of Kodama on the convolutional code technique, thereto in order to reduce the decoding delay time.

Regarding claims 12 and 27, Kodama teaches the puncturing of the encoded information stream occurs adjacent to a portion of the information stream where a demodulation of the information stream begins (see col. 12, line 63-col. 13, line 2).

### *Conclusion*

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shahar (U.S. Pub. 20030002495) discloses adaptive downstream modulation scheme for broadband wireless access systems.

8. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

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or faxed to:

**(703) 872-9314, (for Technology Center 2600 only)**

*Hand-delivered responses should be brought to Crystal Park II,  
2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).*

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan Trinh whose telephone number is (703) 305-5622. The examiner can normally be reached on Monday-Friday from 9:30 AM to 6:00 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung, can be reached at (703) 308-7745.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Technology Center 2600 Customer Service Office** whose telephone number is **(703) 306-0377**.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tan H. Trinh  
Art Unit 2684  
Feb. 01, 2005

  
**NICK CORSARO  
PRIMARY EXAMINER**